SketchMatch - Forensic Face Sketch Construction and Recognition

Major Project II Report

Submitted in fulfillment of the requirements for the degree of

Bachelor of Engineering (Computer Engineering)

by:

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Under the Guidance of

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(University of Mumbai)

(2024 - 2025)

TERNA ENGINEERING COLLEGE, NERUL,

NAVI MUMBAI

Department of Computer Engineering

Academic Year 2024 - 25

CERTIFICATE

This is to certify that the major project II entitles **"SketchMatch - Forensic Face Sketch Construction and Face Recognition"** is a bonafide work of

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Submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the Bachelor of Engineering (Computer Engineering).

Guide	Head of Department	Principal
Prof. Preeti Patil	**Dr. Kishor Sakure**	**Dr. L.K. Ragha**

Approval Sheet

Project Report Approval

This Major Project Report – an entitled "**SketchMatch – Forensic Face Sketch Construction and Face Recognition**" by following students is approved for the degree of ***B.E. in "Computer Engineering"***.

Submitted by:

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Examiners Name & Signature:

1.----------

2.----------

Date: ----------

Place: ----------

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Acknowledgement

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We take the privilege to express our sincere thanks to **Dr. L. K. Ragha** our Principal for providing the encouragement and much support throughout our work.

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Abstract

This project introduces a cutting-edge system designed to revolutionize suspect identification through advanced face sketch generation. Moving beyond the limitations of traditional hand-drawn methods, the platform empowers users to create highly detailed and customizable facial sketches digitally. It also supports the upload of manually drawn features, which are then processed and digitized using sophisticated deep learning models. By integrating cloud technology, the system ensures rapid access and efficient storage, allowing for seamless comparison with vast criminal databases. This innovation not only modernizes the sketching process but also enhances its accessibility and accuracy for law enforcement agencies.

At the core of the system lies a robust machine learning engine that intelligently suggests relevant facial features based on user inputs and learned data patterns. This streamlines the sketch creation process, reducing time and minimizing human error. The system's ability to match generated sketches with known suspects in criminal databases significantly improves investigative outcomes. By providing a more precise, efficient, and intelligent approach to facial recognition, this project stands as a transformative tool in modern policing, offering a substantial upgrade over conventional identification techniques and paving the way for faster and more reliable justice deliver

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